

Remarks

Claims 1-3 are pending. Claims 6-17 have been withdrawn pursuant to a restriction requirement. Applicants affirm their provisional election to prosecute the invention of Group I. Claims 1, 2 and 3 have been amended to cover the elected species and those species further examined by the Examiner and deemed to be free of the prior art. No new matter has been added.

The Examiner indicates that the priority documents have been lost. Applicants have already resubmitted the priority documents in a separate communication.

The Examiner notes that some of the references have been crossed off since copies were not provided with the IDS. Applicants have already resubmitted the references in a 2nd Supplemental Information Disclosure Statement filed on August 12, 2002.

The Examiner indicates that the originally elected compounds and obvious variants are allowable. The Examiner then expanded his search until a compound was found that allegedly fell within the scope of the generic claim. The Examiner rejects claims 1-5 under 35 U.S.C. 102 as being anticipated by the abstract of J. Chem. Soc. C. (1971), 12, p. 2166-74, referring to compound RN=32848-32-1. Applicants respectfully traverse this rejection.

Claim 1 has been amended to cover the groups indicated by the Examiner to be allowable over the prior art. Applicants submit that the instant application is now in condition for allowance.

Respectfully submitted,

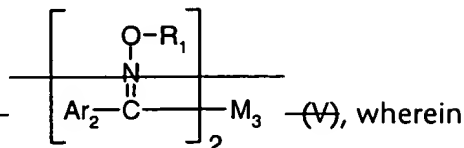
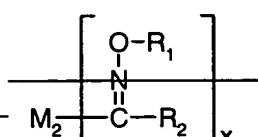
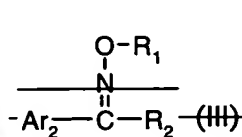
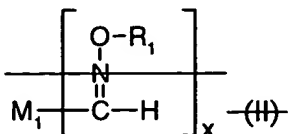
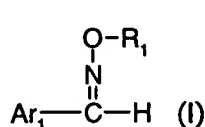


David R. Crichton
Attorney for Applicants
Reg. No. 37,300

Ciba Specialty
Chemicals Corporation
540 White Plains Road
P.O. Box 2005
Tarrytown, New York 10591-9005
Tel: (914) 785-7124
Fax: (914) 785-7102

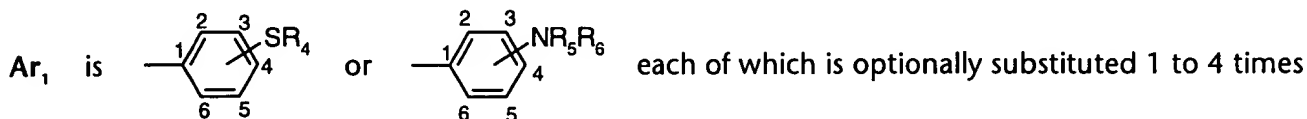
Amended Claims with underlining and bracketing

1. Compounds of the formulae I, II, III, IV and V



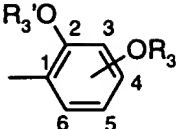
R_1 is C_4 - C_6 cycloalkanoyl, or C_1 - C_{12} alkanoyl which is unsubstituted or substituted by one or more halogen, phenyl or CN; or R_1 is C_4 - C_6 alkenoyl, provided that the double bond is not conjugated with the carbonyl group; or R_1 is benzoyl which is unsubstituted or substituted by one or more C_1 - C_6 alkyl, halogen, CN, OR_3 , SR_4 or NR_5R_6 ; or R_1 is C_2 - C_6 alkoxycarbonyl, benzyloxycarbonyl; or phenoxycarbonyl which is unsubstituted or substituted by one or more C_1 - C_6 alkyl or halogen;

R_2 is phenyl which is unsubstituted or substituted by one or more C_1 - C_6 alkyl, phenyl, halogen, OR_3 , SR_4 or NR_5R_6 ; or R_2 is C_1 - C_{20} alkyl or C_2 - C_{20} alkyl optionally interrupted by one or more O and/or optionally substituted by one or more halogen, OH , OR_3 , phenyl, or phenyl substituted by OR_3 , SR_4 or NR_5R_6 ; or R_2 is C_3 - C_6 cycloalkyl, C_2 - C_{20} alkanoyl; or benzoyl which is unsubstituted or substituted by one or more C_1 - C_6 alkyl, phenyl, OR_3 , SR_4 or NR_5R_6 ; or R_2 is C_2 - C_{12} alkoxycarbonyl optionally interrupted by one or more O and/or optionally substituted by one or more hydroxyl groups; or R_2 is phenoxycarbonyl which is unsubstituted or substituted by C_1 - C_6 alkyl, halogen, phenyl, OR_3 , SR_4 or NR_5R_6 ; or R_2 is CONR_5R_6 , CN;



by halogen, C_1 - C_{12} alkyl, C_3 - C_6 cycloalkyl, benzyl, OR_3 , SR_4 , SOR_4 , SO_2R_4 or NR_5R_6 , wherein the substituents OR_3 , SR_4 or NR_5R_6 optionally form 5- or 6-membered rings via the radicals R_3 , R_4 , R_5 and/or R_6 with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring; provided that

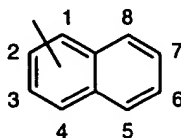
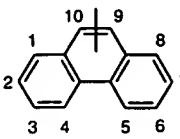
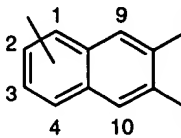
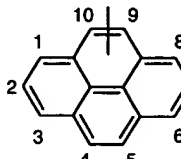
- (i) if SR_4 is 2- $\text{SC}(\text{CH}_3)_3$, R_1 is not benzoyl;
- (ii) if SR_4 is 2- SCH_3 or 4- SCH_3 , R_1 is not 2-iodobenzoyl or 4-methoxybenzoyl;
- (iii) NR_5R_6 is not 4- $\text{N}(\text{CH}_3)_2$ or 2- NHCO -phenyl;
- (iv) if NR_5R_6 is 2- NH_2 , 2- NHCOCH_3 , 4- NHCOCH_3 , 2- NHCOOCH_3 , R_1 is not acetyl;
- (v) if NR_5R_6 is 4- NHCO -phenyl, R_1 is not benzoyl; and
- (vi) if NR_5R_6 is 4- $\text{N}(\text{CH}_2\text{CH}_3)_2$, R_1 is not 3,5-bis(1,1-dimethylethyl)-4-hydroxybenzoyl;

or Ar₁ is , optionally substituted 1 to 3 times by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl,

benzyl, OR₃, SOR₄ or SO₂R₄, wherein the substituents OR₃ and/or OR₃' optionally form a 6-membered ring *via* the radicals R₃ and/or R₃' with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

provided that

- (vii) if Ar₁ is 2,4-dimethoxyphenyl, R₁ is not acetyl or benzoyl;
- (viii) if Ar₁ is 3,5-dibromo-2,4-dimethoxyphenyl, R₁ is not chloroacetyl; and
- (ix) if Ar₁ is 2,5-dimethoxyphenyl, 2-acetyloxy-3-methoxyphenyl, 2,4,5-trimethoxyphenyl, 2,6-diacetoxy-4-methylphenyl or 2,6-diacetoxy-4-acetoxymethylphenyl, R₁ is not acetyl;

or Ar₁ is , , , or , each of

which is unsubstituted or substituted 1 to 9 times by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl; or each of which is substituted by phenyl or by phenyl which is substituted by one or more OR₃, SR₄ or NR₅R₆; or each of which is substituted by benzyl, benzoyl, C₂-C₁₂alkanoyl; C₂-C₁₂alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxycarbonyl, OR₃, SR₄, SOR₄, SO₂R₄ or NR₅R₆, wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings *via* the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

provided that

- (x) Ar₁ is not 1-naphthyl, 2-naphthyl, 2-methoxy-1-naphthyl, 4-methoxy-1-naphthyl, 2-hydroxy-1-naphthyl, 4-hydroxy-1-naphthyl, 1,4-diacetyloxy-2-naphthyl, 1,4,5,8-tetramethoxy-2-naphthyl, 9-phenanthryl, 9-anthryl; and

- (xi) if Ar₁ is 10-(4-chlorophenylthio)-9-anthryl, R₁ is not pivaloyl;

or Ar₁ is benzoyl, naphthalenecarbonyl, phenanthrenecarbonyl, anthracenecarbonyl or pyrenecarbonyl, each of which is unsubstituted or substituted 1 to 9 times by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, phenyl, phenyl which is substituted by one or more OR₃, SR₄ or NR₅R₆; or each of which is substituted by benzyl, benzoyl, C₂-C₁₂alkanoyl; C₂-C₁₂alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups, phenoxycarbonyl, OR₃, SR₄, SOR₄, SO₂R₄ or NR₅R₆, wherein the substituents OR₃, SR₄ and NR₅R₆ optionally form 5- or 6-membered rings *via* the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

provided that

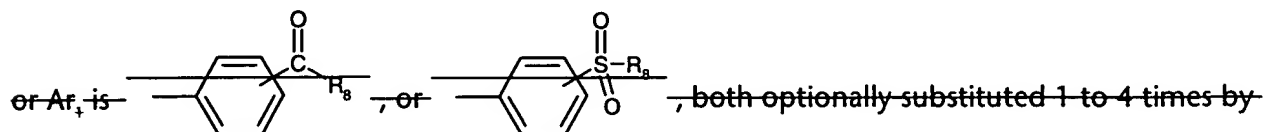
- (xii) if Ar₁ is benzoyl, R₁ is not acetyl, benzoyl nor 4-methylbenzoyl;
- (xiii) if Ar₁ is 4-benzoyloxybenzoyl or 4-chloromethylbenzoyl, R₁ is not benzoyl;
- (xiv) if Ar₁ is 4-methylbenzoyl, 4-bromobenzoyl or 2,4-dimethylbenzoyl, R₁ is not acetyl;

or Ar₁ is 3,4,5-trimethoxyphenyl, or phenoxyphenyl;

or Ar₁ is biphenyl, optionally substituted 1 to 9 times by halogen, C₁-C₁₂alkyl, C₄-C₉-cycloalkanoyl, -(CO)OR₃, -(CO)NR₅R₆, -(CO)R₈, OR₃, SR₄ and/or NR₅R₆ wherein the substituents C₁-C₁₂alkyl, -(CO)R₈, OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings via the radicals C₁-C₁₂alkyl, R₃, R₄, R₅, R₆ and/or R₆ with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

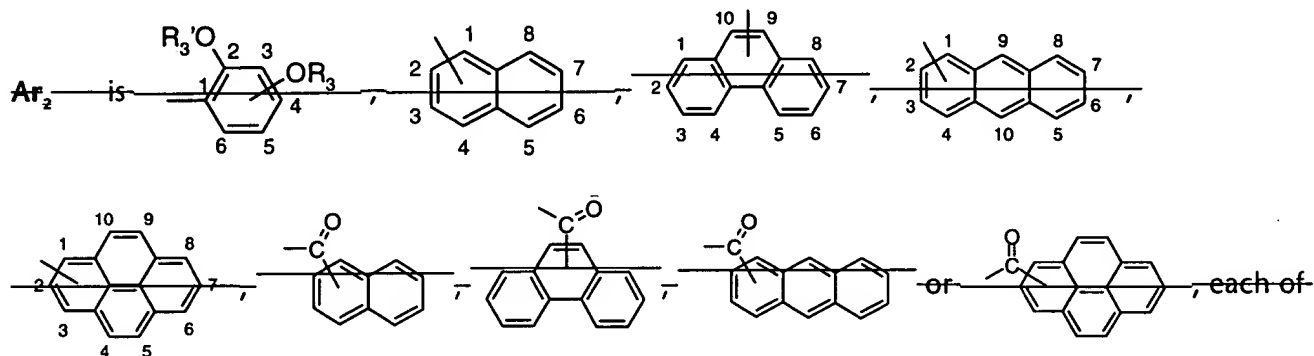
provided that

(xv) if Ar₁ is 2-biphenyl, R₁ is not benzoyl;



halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, benzyl, OR₃, SR₄ or NR₅R₆, wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings via the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring or with the substituent R₈;

or Ar₁ is thienyl or 1-methyl-2-pyrrolyl; provided that R₁ is acetyl;



which is unsubstituted or substituted 1 to 9 times by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, phenyl, phenyl which is substituted by one or more OR₃, SR₄ or NR₅R₆, or each of which is substituted by benzyl, benzoyl, C₂-C₁₂alkanoyl, C₂-C₁₂alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; phenoxycarbonyl, OR₃, SR₄, SOR₄, SO₂R₄ or NR₅R₆, wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings via the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

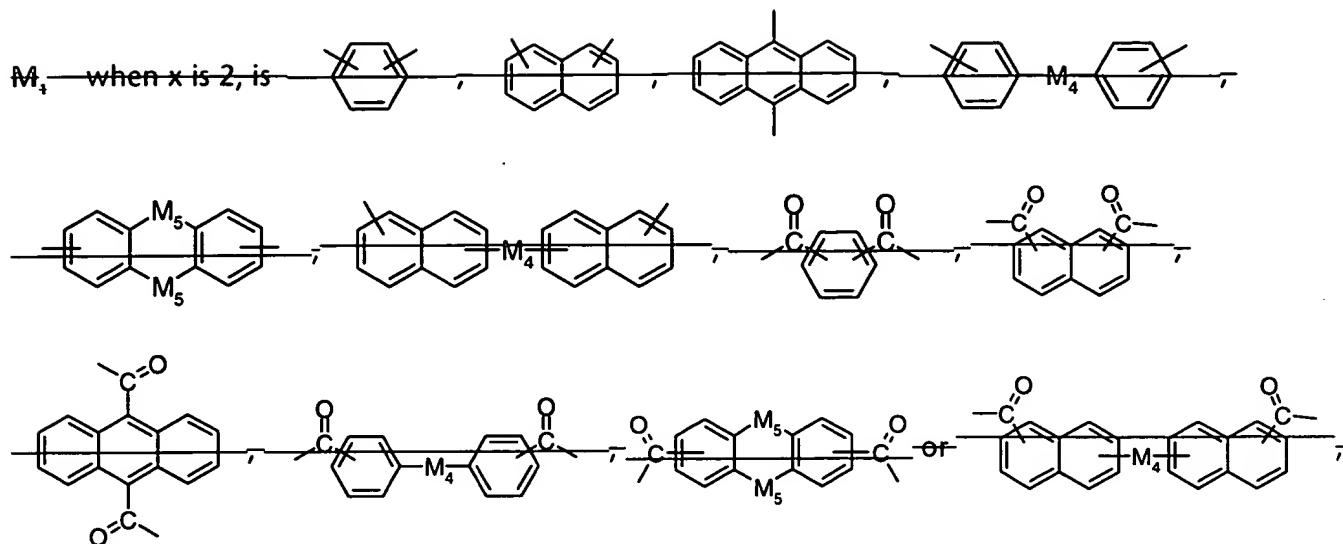
provided that

(xvi) if Ar₂ is 1-naphthyl, 2-naphthyl or 1-hydroxy-2-naphthyl, R₂ is not methyl, ethyl, n-propyl, butyl, phenyl or CN;

(xvii) if Ar₂ is 2-hydroxy-1-naphthyl, 2-acetoxy-1-naphthyl, 3-phenanthryl, 9-phenanthryl or 9-anthryl R₂ is not methyl; and

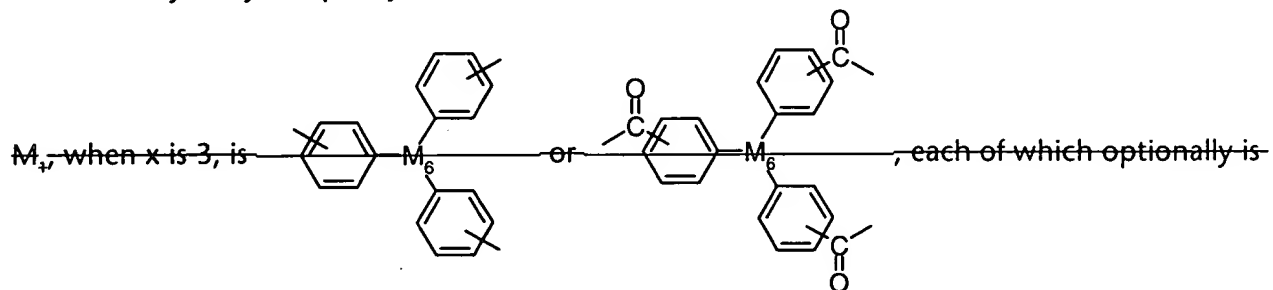
(xviii) if Ar₂ is 6-methoxy-2-naphthyl, R₁ is not (CH₃)₃CCO nor 4-chlorobenzoyl;

x is 2 or 3;

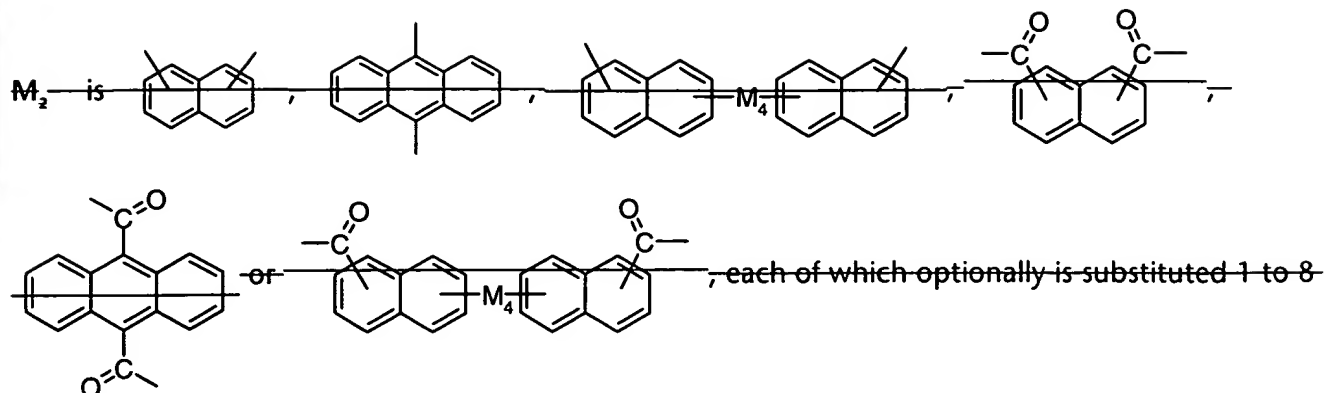


each of which optionally is substituted 1 to 8 times by halogen, C_1 - C_{12} alkyl, C_3 - C_8 cycloalkyl, phenyl which is unsubstituted or substituted by one or more OR_3 , SR_4 or NR_5R_6 , or each of which is substituted by benzyl, benzoyl, C_2 - C_{12} alkanoyl, C_2 - C_{12} alkoxy carbonyl optionally interrupted by one or more $-O-$ and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxy carbonyl, OR_3 , SR_4 , SOR_4 , SO_2R_4 or NR_5R_6 provided that

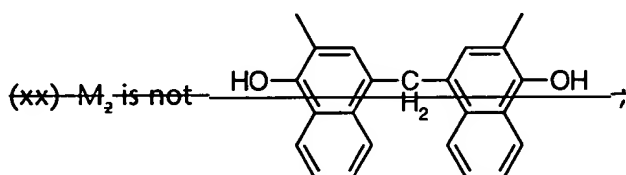
(xix) M_4 is not 1,3-phenylene, 1,4-phenylene, 1-acetoxy-2-methoxy-4,6-phenylene or 1-methoxy-2-hydroxy-3,5-phenylene;



substituted 1 to 12 times by halogen, C_1 - C_{12} alkyl, C_3 - C_8 cycloalkyl, phenyl which is unsubstituted or substituted by one or more OR_3 , SR_4 or NR_5R_6 , or each of which is substituted by benzyl, benzoyl, C_2 - C_{12} alkanoyl, C_2 - C_{12} alkoxy carbonyl optionally interrupted by one or more $-O-$ and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxy carbonyl, OR_3 , SR_4 , SOR_4 , SO_2R_4 or NR_5R_6



times by halogen, C_1 - C_{12} alkyl, C_3 - C_6 cycloalkyl, phenyl which is unsubstituted or substituted by one or more OR_3 , SR_4 or NR_5R_6 or each of which is substituted by benzyl, benzoyl, C_2 - C_{12} alkanoyl, C_2 - C_{12} alkoxy carbonyl optionally interrupted by one or more O and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxy carbonyl, OR_3 , SR_4 , SOR_4 , SO_2R_4 or NR_5R_6 provided that

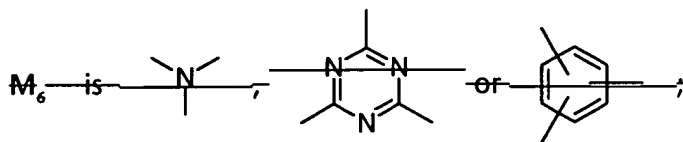


M_3 is C_1 - C_{12} alkylene, cyclohexylene, phenylene, $(CO)O-(C_2-C_{12} \text{ alkylene})-O(CO)$, $(CO)O-(CH_2CH_2O)_n-(CO)$ or $(CO)-(C_2-C_{12} \text{ alkylene})-(CO)$;

n is 1-20;

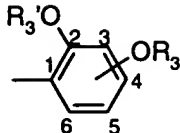
M_4 is a direct bond, O , S , SS , NR_3 , (CO) , C_1 - C_{12} alkylene, cyclohexylene, phenylene, naphthylene, C_2 - C_{12} alkylenedioxy, C_2 - C_{12} alkylenedisulfanyl, $(CO)O-(C_2-C_{12} \text{ alkylene})-O(CO)$, $(CO)O-(CH_2CH_2O)_n-(CO)$ or $(CO)-(C_2-C_{12} \text{ alkylene})-(CO)$; or M_4 is C_4 - C_{12} alkylene or C_4 - C_{12} alkylenedioxy, each of which is optionally interrupted by 1 to 5 O , S and/or NR_3 ;

M_5 is a direct bond, CH_2 , O , S , SS , NR_3 or (CO) ;



M_7 is O , S , SS or NR_3 ; or M_7 is $O(CO)-(C_2-C_{12} \text{ alkylene})-(CO)O$, $NR_3(CO)-(C_2-C_{12} \text{ alkylene})-(CO)NR_3$ or C_2 - C_{12} alkylenedioxy, each of which optionally is interrupted by 1 to 5 O , S and/or NR_3 ;

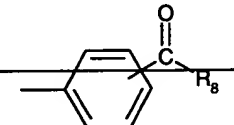
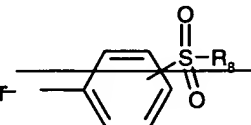
R_3 is hydrogen or C_1 - C_{20} alkyl; or R_3 is C_2 - C_6 alkyl which is substituted by OH , SH , CN , C_3 - C_6 alkenoxy, OCH_2CH_2CN , $OCH_2CH_2(CO)O(C_1-C_4 \text{ alkyl})$, $O(CO)-C_1-C_4 \text{ alkyl}$, $O(CO)$ phenyl, $(CO)OH$ or $(CO)O(C_1-C_4 \text{ alkyl})$; or R_3 is C_2 - C_{12} alkyl which is interrupted by one or more O ; or R_3 is $(CH_2CH_2O)_mH$, $(CH_2CH_2O)_n(CO)-C_1-C_6 \text{ alkyl}$, $C_1-C_6 \text{ alkanoyl}$, $C_3-C_{12} \text{ alkenyl}$, $C_3-C_6 \text{ alkenoyl}$, $C_3-C_6 \text{ cycloalkyl}$; or R_3 is benzoyl which is unsubstituted or substituted by one or more $C_1-C_6 \text{ alkyl}$, halogen, OH or $C_1-C_4 \text{ alkoxy}$; or R_3 is phenyl or naphthyl each of which is unsubstituted or

or Ar₁ is , optionally substituted 1 to 3 times by halogen, C₁-C₁₂alkyl, OR₃, wherein the

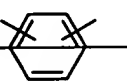
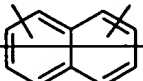
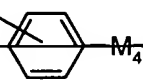
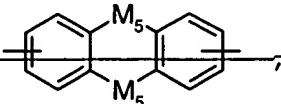
substituents OR₃ and/or OR₃' optionally form a 6-membered ring via the radicals R₃ and/or R₃' with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

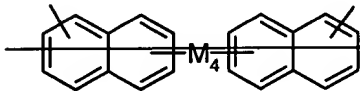
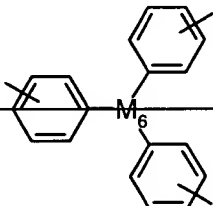
or Ar₁ is naphthyl, which is unsubstituted or substituted 1 to 7 times by halogen, C₁-C₁₂alkyl, OR₃, SR₄ or NR₅R₆, wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings via the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the fused aromatic ring or with one of the carbon atoms of the naphthyl ring;

or Ar₁ is biphenyl, optionally substituted 1 to 9 times by halogen, C₁-C₁₂alkyl, -(CO)R₈, OR₃, SR₄ or NR₅R₆ wherein the substituents C₁-C₁₂alkyl, OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings via the radicals C₁-C₁₂alkyl, R₃, R₄, R₅ and/or R₆ with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

or Ar₁ is  or , both optionally substituted 1 to 4 times by

halogen, C₁-C₁₂alkyl, OR₃, SR₄, SOR₄, SO₂R₄, or NR₅R₆ wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings via the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring or with R₈;

M₄ is , , , or ,

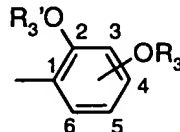
 or  each of which optionally is substituted 1 to 8

times by halogen, C₁-C₁₂alkyl, phenyl, OR₃, SR₄ or NR₅R₆.

3. A compound of the formula I or H according to claim 1, wherein

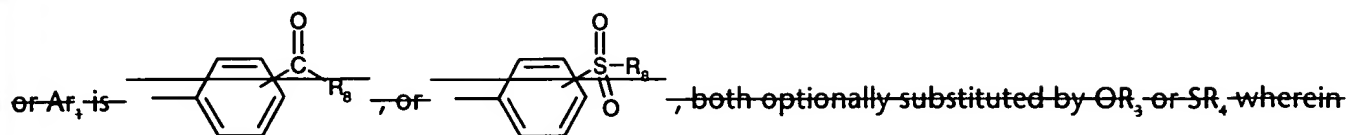
R₁ is C₁-C₁₂alkanoyl, benzoyl or C₂-C₆alkoxycarbonyl;

Ar₁ is R₄S-phenyl or NR₅R₆-phenyl, each of which is optionally substituted by C₁-C₈alkyl, OR₃, or SR₄;

or Ar₁ is , optionally substituted by OR₃; or Ar₁ is 1-naphthyl or 2-naphthyl each of

which optionally is substituted by OR₃, SR₄ or NR₅R₆; or Ar₁ is 3,4,5-trimethoxyphenyl, or phenoxyphenyl; or Ar₁ is biphenyl, optionally substituted by C₁-C₁₂alkyl, OR₃ and/or NR₅R₆ wherein the substituents C₁-C₁₂alkyl, OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings via the radicals

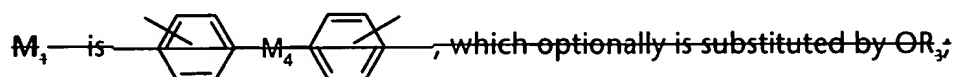
C_1 - C_{12} alkyl, R_3 , R_4 , R_5 , and/or R_6 with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;



the substituents OR_3 or SR_4 optionally form 5- or 6-membered rings via the radicals R_3 and/or with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring or with the substituent R_8 ;

or Ar_1 is thienyl or 1-methyl-2-pyrrolyl; provided that R_4 is acetyl;

x is 2;



M_4 is a direct bond, $-O-$, $-S-$, $-SS-$, or C_2 - C_{12} alkylenedioxy;

R_3 is C_4 - C_8 alkyl, phenyl or phenyl- C_4 - C_3 alkyl;

R_3' is C_4 - C_8 alkyl, C_3 - C_{12} alkenyl or phenyl- C_4 - C_3 alkyl;

R_4 is C_4 - C_{20} alkyl, phenyl- C_4 - C_3 alkyl, benzoyl, or is phenyl or naphthyl, both of which are unsubstituted or substituted by C_4 - C_{12} alkyl, phenyl- C_4 - C_3 alkoxy, $-(CO)R_7$ or $-(CO)OR_7$;

R_5 and R_6 independently of each other are hydrogen, phenyl- C_4 - C_3 alkyl, C_2 - C_8 alkanoyl, or phenyl;

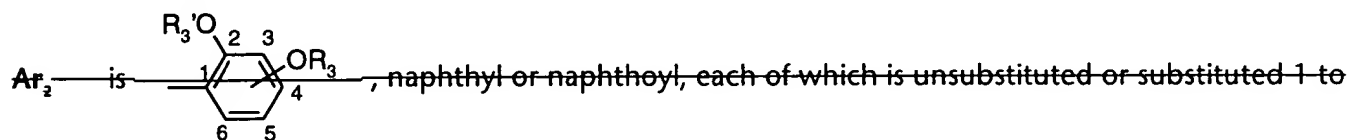
R_7 is C_4 - C_{20} alkyl or phenyl;

R_8 is phenyl optionally substituted by OR_3 .

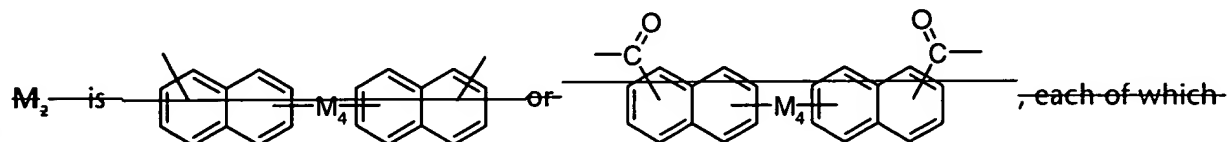
4. Compounds of the formula III, IV or V according to the claim 1, wherein

R_1 is C_2 - C_8 alkoxycarbonyl or benzyloxycarbonyl; C_4 - C_{12} alkanoyl which is unsubstituted or substituted by one or more halogen or phenyl; or R_1 is C_4 - C_6 alkenoyl, provided that the double bond is not conjugated with the carbonyl group; or R_1 is benzoyl which is unsubstituted or substituted by one or more C_4 - C_6 alkyl or halogen;

R_2 is phenyl which is unsubstituted or substituted by one or more C_4 - C_6 alkyl, phenyl, halogen, OR_3 , SR_4 or NR_5R_6 ; or R_2 is C_4 - C_{20} alkyl, optionally interrupted by one or more $-O-$ and/or optionally substituted by one or more halogen, OH , OR_3 , phenyl or phenyl substituted by OR_3 , SR_4 or NR_5R_6 ;



9 times by halogen, C_4 - C_{12} alkyl, phenyl, OR_3 , SR_4 or NR_5R_6 , wherein the substituents OR_3 , SR_4 or NR_5R_6 optionally form 5- or 6-membered rings via the radicals R_3 , R_4 , R_5 and/or R_6 with further substituents on the fused aromatic ring or with one of the carbon atoms of the naphthyl ring;



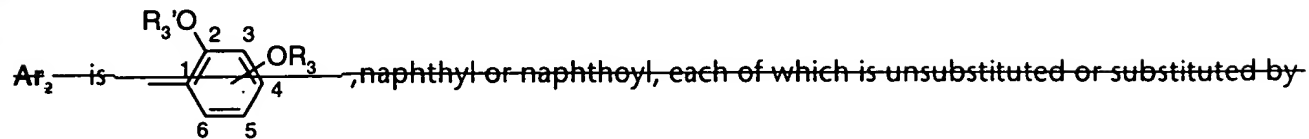
optionally is substituted 1 to 8 times by halogen, C_4 - C_{12} alkyl, phenyl, OR_3 , SR_4 or NR_5R_6 ; and

M_3 — is C_4 - C_{12} alkylene, or phenylene.

5. ~~Compounds of the formula III according to claim 1, wherein~~

R_1 — is C_4 - C_6 alkanoyl or benzoyl;

R_2 — is C_4 - C_{20} alkyl or C_2 - C_{20} alkyl;



OR_3 or SR_4 ;

R_3 and R_3' are C_4 - C_{20} alkyl; and

R_4 — is phenyl.